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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590

12/09/2003

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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/981,221

Applicant(s)

PURBRICK ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) 12 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

1. All outstanding rejections are overcome by applicants' amendment filed 9/15/03.

The following action is non-final in light of the new grounds of rejection as set forth below.

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 8-11, and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasuda et al. (U.S. 5,213,873).

Yasuda et al. disclose coating composition for forming coating on a support for use in ink jet printing wherein the composition comprises aqueous liquid medium having dispersed therein 40-80% silica, 15-40% binder including polyvinyl alcohol, and 5-20% cationic polymeric material which reacts with surfaces of the fine silica particles. There is also disclosed a process comprising applying the above composition to support to form coated substrate (col.4, lines 8-22, col.5, lines 3-19, col.5, line 61-col.6, line 2, and col.7, lines 9-23). Based on the above amounts,

it is calculated that the ratio of silica to binder is 1:1 to 5.3:1, the ratio of silica to cationic polymeric material is 2:1 to 16:1, and the ratio of binder to cationic polymer material is 0.75:1 to 8:1.

In light of the above, it is clear that Yasuda et al. anticipate the present claims.

4. Claims 1-3, 5, 7-9, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Mukoyoshi et al. (U.S. 6,187,430).

Mukoyoshi et al. ink jet recording sheet comprising ink receiving layer wherein the ink receiving layer is formed from composition comprising aqueous liquid medium, 100 parts silica, 1-100 parts binder, and polymer resin modified with silanol that reacts with the silica so that the polymer and silica are connected to each other through Si-O-R bonds (col.5, lines 20 and 54-67, col.6, lines 1-5, and col.7, lines 1-13). Attention is drawn to example 1 which discloses composition comprising 80 parts silica, 20 parts binder, and 40 parts aqueous emulsion of silica composite product that comprises ratio of copolymer to silica of 40/60. From example 1, it is calculated that the ratio of silica to binder is approximately 5:1  $(80+0.6*40)/20$ , the ratio of silica to copolymer is 6.5:1  $(80+0.6*40)/(0.4*40)$ , and the ratio of binder to copolymer is approximately 1.2:1  $(20/(0.4*40))$ .

In light of the above, it is clear that Mukoyoshi et al. anticipate the present claims.

**Claim Rejections - 35 USC § 103**

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mukoyoshi et al. (U.S. 6,187,430) in view of EP 976572.

The disclosure with respect to Mukoyoshi et al. in paragraph 4 above is incorporated here by reference.

The difference between Mukoyoshi et al. and the present claimed invention is the requirement in the claims of specific type of polymeric crosslinking agent.

EP 976572, which is drawn to coating fluid for a coating on a support for use in ink jet printing, discloses the equivalence and interchangeability of silanol modified protein, as presently claimed, with silanol modified polyvinyl alcohol, as disclosed by Mukoyoshi et al., to react with silica and produce water resistant and durable images (page 2, lines 55-56 and page 3, lines 33-36).

In light of the disclosure of EP 976572, it therefore would have been obvious to one of ordinary skill in the art to use silanol modified protein in the coating fluid of Mukoyoshi et al., and thereby arrive at the claimed invention.

**Allowable Subject Matter**

7. Claims 12 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 and 15 would be allowable if rewritten in independent form given that there is no disclosure or suggestion in the "closest" prior art, namely, Yasuda et al. (U.S. 5,213,873) or

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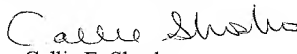
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Mukoyoshi et al. (U.S. 6,187,430) of ratio of inorganic oxide to polymeric crosslinking agent of 250:1 to 20:1 as required in present claims 12 and 15.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
12/4/03